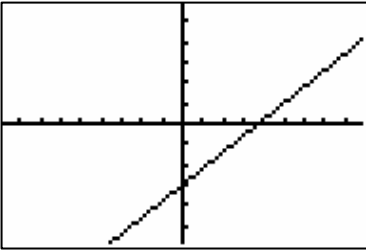
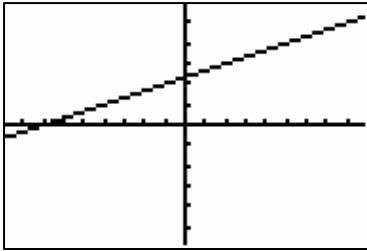

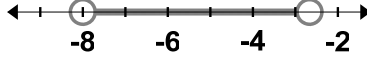
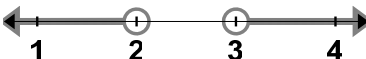
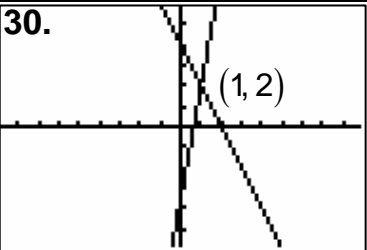
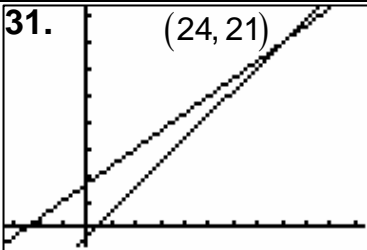
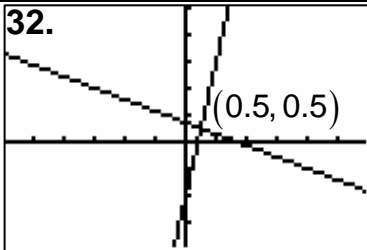


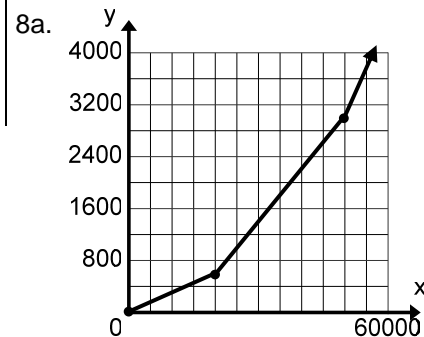
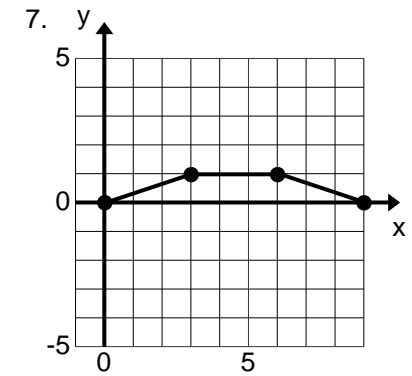
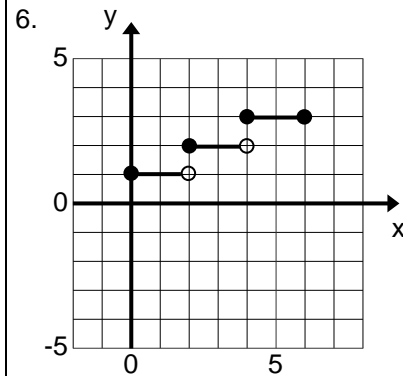
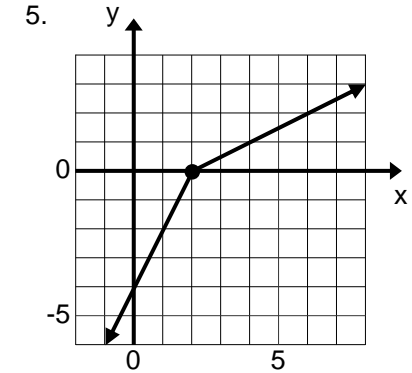
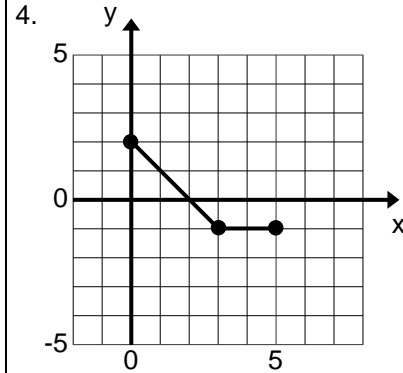
|  |  |   |  |
|--|--|---|--|
| 1. $\frac{m}{7} \geq 16$ $m \geq 112$  | 2. $4 + b^2 = 104$<br>$b = \pm 10$   | 3. $t = 3\frac{2}{3}(3)$ 11 miles   | 4. 4   |
| 5. -2  | 6. 5   | 7. -63  | 8. 48  |
| 9. -15   | 10. 16   | 11. $\frac{34}{3}$  | 12. $\frac{45}{2}$   |
| 13. -49  | 14. 9  | 15. $-\frac{18}{11}$  | 16. -28  |
| 17. -5.35  | 18. 4.9  | 19. $y = \frac{2}{3}x + \#$   | 20. $y = -\frac{3}{2}x + \#$   |
| 21. Function<br>D: -1, 1, 3, 5, 7<br>R: -1, 1, 3, 5  | 22. Not a Function<br>D: -2, -1, 0, 1<br>R: -2, -1, 0, 1, 2, 3   | 23. Function<br>D: -2, -1, 0, 1, 2<br>R: -2, -1, 0, 1   | 24. Not a Function<br>D: $-3 \leq x \leq 2$<br>R: $-2 \leq y \leq 4$   |
| 25. $4x - 5y = 15$<br>       | 26. $x - 3y = -7$<br> | 27. $-\frac{5}{4} \leq x < 3$<br> | 28. $-8 < x < -\frac{8}{3}$<br> |
| 29. $x < 2$ or $x > 3$<br> | 30.                  | 31.                              | 32.                            |
| 33. $b^6$ ; 64   | 34. $3a$ ; 3   | 35. $-8a^3b^6$ ; -512   | 36. $4b^5 + 16b^4 + 16b^3$<br>512  |
| 37. $\frac{4b^5}{a^4}$ ; 128   | 38. $\frac{a}{25b^5}$ ; $\frac{1}{800}$  | 39. Two Sol: $\pm\sqrt{\frac{13}{3}}$   | 40. Two Sol: $1, \frac{5}{4}$  |
| 41. One Sol: -1  | 42. $(x+2)(x+4)$   | 43. $(x-28)(x+4)$   | 44. $(3x-1)(x+6)$  |
| 45. $(2x+3)^2$   | 46. $(x+5)^2$  | 47. $(x-7)^2$   | 48. $-\frac{7}{2}, -\frac{1}{3}$   |
| 49. $-\frac{3}{2}, \frac{5}{3}$  | 50. -2   | 51. -5, -2, 2   | 52. -6, -3, 0  |
| 53. $\frac{2}{3}$  | 54. $\frac{1}{3x}$   | 55. $\frac{2}{x-3}$   | 56. $\frac{1}{(x+4)(2x+3)}$  |
| 57. $\frac{1}{3x}$   | 58. $\frac{5x+4}{x+2}$   | 59. $\frac{x(2x-7)}{(x+4)(x-1)}$  | 60. $7\sqrt{7}$  |
| 61. $-15\sqrt{2}$  | 62. $15\sqrt{2} + 6\sqrt{6}$   | 63. $\frac{77 + 11\sqrt{3}}{46}$  | 64. $\sin Q = 0.92$<br>$\cos Q = 0.38$<br>$\tan Q = 2.4$   |
| 64. $\sin R = 0.38$<br>$\cos R = 0.92$<br>$\tan R = 0.42$  | 65. $b = 19.80$<br>$c = 21.36$   | 66. A: \$760, \$880<br>B: \$740, \$1220   | 67. $13.\bar{3}$ months  |

1. 95%
2. 81.5%
3. 16%
4. 32%
5. 2 People
6. 12 People
7. About 26 Days
8. 68%
9. 47.5%
10. 2.5%
11. 16%
12. 34%
13. 50%

$$1. f(x) = \begin{cases} 4 & \text{if } 0 \leq x < 3 \\ -x+7 & \text{if } 3 \leq x \leq 6 \end{cases}$$

$$2. f(x) = \begin{cases} -x+5 & \text{if } 0 \leq x \leq 3 \\ 0.5x+3.5 & \text{if } 3 < x \leq 7 \end{cases}$$

$$3. f(x) = \begin{cases} (-7/3)x+3 & \text{if } 0 \leq x < 3 \\ 2 & \text{if } 3 \leq x < 5 \\ (1/3)x-11/3 & \text{if } 5 \leq x \leq 8 \end{cases}$$



8b.  $f(10000) = \$300$   
 $f(54000) = \$3600$

Algebra 2H  
WS 04.5- Mid-Chapter Review ANSWERS

1.  $f(x+2) = -3x - 1$

2.  $g(2x) + 1 = 4x^2 - 8x + 5$

3.  $h(x-1) + 3 = x^2 - 2x + 8$

4.  $f(g(6)) = -43$

5.  $h(f(7)) = 260$

6.  $g(h(-5)) = 729$

7.  $f(g(h(-2))) = -103$

8.  $g(h(f(4))) = 2601$

9.  $h(g(f(0))) = 85$

10.  $f(h(a)) = -3a^2 - 7$

11.  $h(f(a)) = 9a^2 - 30a + 29$

12.  $g(h(a)) = a^2 + 4a + 4$

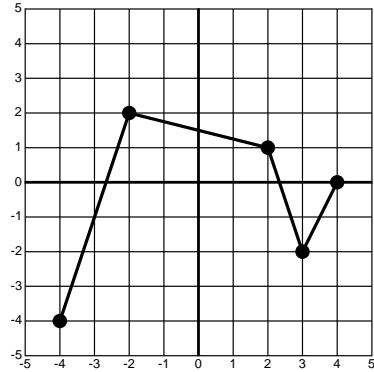
13. Shift left 5 units

14. Shift up 2.5 units

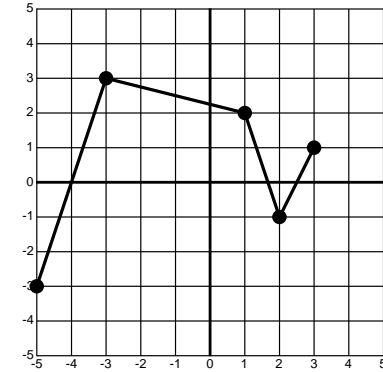
15. Shift right 3 and down 9 units

16. Shift left 7.5 and up 2.5 units

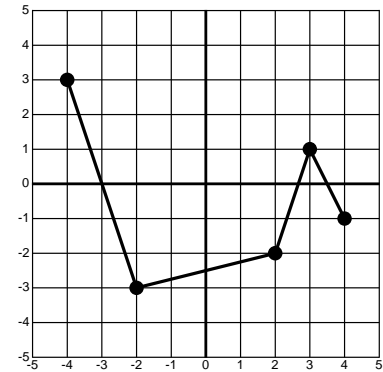
17.



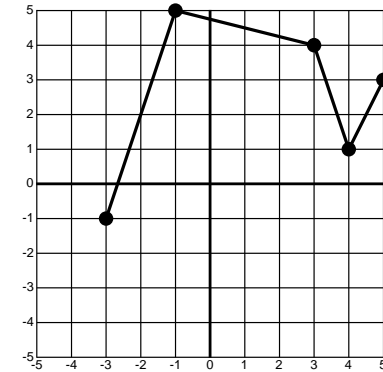
19.



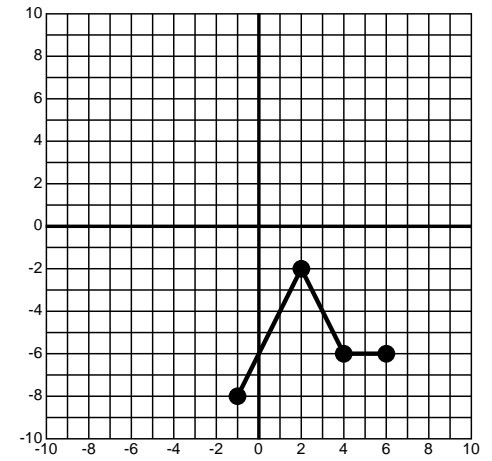
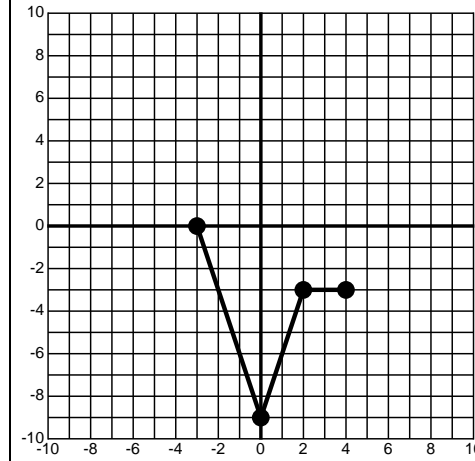
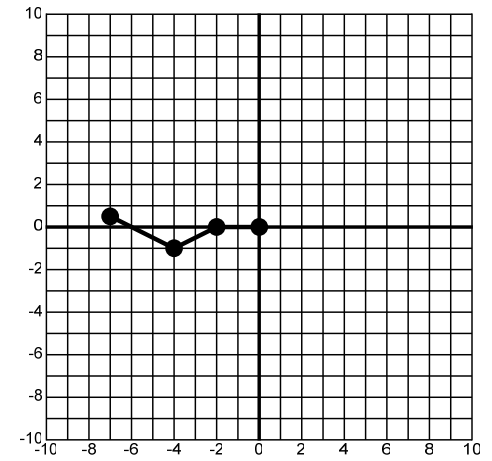
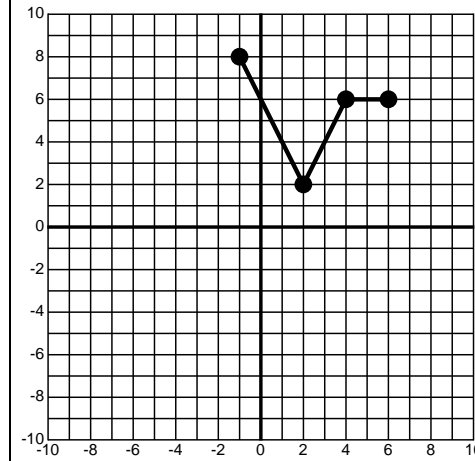
18.



20.



Algebra 2H  
WS 04.X- Transformation Practice ANSWERS



Algebra 2H  
WS 05.7- Properties of Logarithms ANSWERS

1. a) sum b) quotient

2.  $3\log M$

3.  $\log M + 3\log N$

4.  $7\log M - 5\log N$

5.  $-2\log N$

6.  $\frac{2}{3}\log M$

7.  $\log M + \frac{1}{2}\log N$

8.  $\log \frac{2}{343}$

9.  $\log_3 100$

10.  $\log_4 35$

11.  $\log x^9$

12.  $\log_5 4$

13.  $\log_6 \frac{t^4}{u^8 v^5}$

14. 2

15. 3

16. -1

17.  $x + y$

18.  $-3x$

19.  $2x + 2y$

$$1. \quad y = Pe^{rt} \quad 10000 = 2000e^{r(21)}$$

**7.66%**

$$2a. \quad A = P\left(1 + \frac{r}{n}\right)^{nt} \quad 10000 = P\left(1 + \frac{0.11}{4}\right)^{4(14)}$$

**\$2189**

$$2b. \quad y = Pe^{rt} \quad 10000 = Pe^{.11(14)}$$

**\$2144**

$$3. \quad y = Pe^{rt} \quad 2P = Pe^{35r}$$

**0.020**

$$4. \quad V_t = P(1+r)^t \quad 5000 = 35000(1-0.2)^t$$

**8.7 years**

$$5. \quad V_n = P(1+r)^t \quad 11100 = 6300(1+r)^{14}$$

**4.1%**

$$6a. \quad y = Pe^{rt} \quad 1 = 2e^{5570r}$$

**-0.0001244**

$$6b. \quad y = Pe^{rt} \quad \frac{1}{15} = e^{-0.0001244t}$$

**21,760 years**

|    |                         |                      |
|----|-------------------------|----------------------|
| 7. | Method with 12%         | Method with $n\%$    |
|    | $P(1+r)^t = Pe^{0.12t}$ | $P(1+r)^t = Pe^{nt}$ |
|    | $(1+r)^t = e^{0.12t}$   | $(1+r)^t = e^{nt}$   |
|    | $1+r = e^{0.12}$        | $1+r = e^n$          |
|    | $r = e^{0.12} - 1$      | $r = e^n - 1$        |
|    | <b>12.75%</b>           | $100(e^n - 1)\%$     |

$$8. \quad V_n = P(1+r)^t \quad \log \frac{1}{12} \geq t \log 0.7$$

$$1 \geq 12(1-0.30)^t \quad 6.967 \leq t$$

$$\frac{1}{12} \geq (0.7)^t$$

**About 7 weeks**

$$9. \quad \text{Let } x \text{ be a number} \quad P = x(x+13)$$

Find the vertex (min)  $\left(-\frac{13}{2}, -\frac{169}{4}\right)$

**So the numbers are  $-\frac{13}{2}$  and  $\frac{13}{2}$**

$$10. \quad \text{Let } t \text{ be time} \quad 2\left(1 - \frac{1}{8}t\right) = 1 - \frac{1}{12}t$$

**6 hours**

Algebra 2H  
WS 06.0- Properties of Matrices ANSWERS

1. (6, 7)    2. (0, -11, -15)    3. (-6, 7)    4. (4, 1)    5. (3, -2)

Algebra 2H  
WS 06.0- Operations with Matrices ANSWERS

1.  $\begin{bmatrix} 5 & 1 & -1 \\ 3 & 8 & -2 \end{bmatrix}$     2.  $\begin{bmatrix} -5 & -3 & 5 \\ 3 & 12 & -4 \end{bmatrix}$     3. Impossible

4.  $\begin{bmatrix} 4 & -8 \\ -2 & 6 \end{bmatrix}$     5.  $[1 \ -6 \ 4]$     6.  $[-1 \ 6 \ -4]$

7.  $[-2 \ 8 \ -6]$     8.  $\begin{bmatrix} 0 & -3 & 6 \\ 9 & 30 & -9 \end{bmatrix}$     9.  $\begin{bmatrix} 10 & 3 & -4 \\ 3 & 6 & -1 \end{bmatrix}$     10.  $[2 \ -14 \ 9]$

Algebra 2H  
WS 06.4- System of Equations Word Problems ANSWERS

Let:  $f$  = Cost of Film     $b$  = Cost of Batteries     $c$  = Cost of Camera

1.  $4f + 4b + 3c = 36$   
 $6f + 6b + c = 33$   
 $b = f + .50$

$$\rightarrow \begin{bmatrix} 4 & 4 & 3 \\ 6 & 6 & 1 \\ -1 & 1 & 0 \end{bmatrix} \begin{bmatrix} f \\ b \\ c \end{bmatrix} = \begin{bmatrix} 36 \\ 33 \\ .50 \end{bmatrix} \rightarrow \begin{matrix} f = \$2.00 \\ b = \$2.50 \\ c = \$6.00 \end{matrix}$$

Let:  $x$  = Side 1 Length     $y$  = Side 2 Length     $z$  = Side 3 Length

2.  $x = y + 3$   
 $x + y - 9 = z$   
 $x + y + z = 29$

$$\rightarrow \begin{bmatrix} 1 & -1 & 0 \\ 1 & 1 & -1 \\ 1 & 1 & 1 \end{bmatrix} \begin{bmatrix} x \\ y \\ z \end{bmatrix} = \begin{bmatrix} 3 \\ 9 \\ 29 \end{bmatrix} \rightarrow \begin{matrix} x = 11 \\ y = 8 \\ z = 10 \end{matrix}$$

Let:  $a$  = Adam's Age     $b$  = Betsy's Age     $c$  = Carol's Age

3.  $a + b + c = 47$   
 $.5(a + b) - 1 = c$   
 $a = b + 6$

$$\rightarrow \begin{bmatrix} 1 & 1 & 1 \\ .5 & .5 & -1 \\ 1 & -1 & 0 \end{bmatrix} \begin{bmatrix} a \\ b \\ c \end{bmatrix} = \begin{bmatrix} 47 \\ 1 \\ 6 \end{bmatrix} \rightarrow \begin{matrix} a = 19 \\ b = 13 \\ c = 15 \end{matrix}$$

Let:  $h$  = Cost of Hot Dog     $m$  = Cost of Malt     $s$  = Cost of Soda

4.  $3h + 2m + s = 8.30$   
 $h + 4s = 7.60$   
 $3m = 2s$

$$\rightarrow \begin{bmatrix} 3 & 2 & 1 \\ 1 & 0 & 4 \\ 0 & 3 & -2 \end{bmatrix} \begin{bmatrix} h \\ m \\ s \end{bmatrix} = \begin{bmatrix} 8.30 \\ 7.60 \\ 0 \end{bmatrix} \rightarrow \begin{matrix} h = \$1.60 \\ m = \$1.00 \\ s = \$1.50 \end{matrix}$$

Let:  $s$  = Amt of Spray     $p$  = Amt of Powder     $l$  = Amt of Lotion

5.  $s + p + l = 22$   
 $15s + 12p + 8l = 276$   
 $s = 2l$

$$\rightarrow \begin{bmatrix} 1 & 1 & 1 \\ 15 & 12 & 8 \\ 1 & 0 & -2 \end{bmatrix} \begin{bmatrix} s \\ p \\ l \end{bmatrix} = \begin{bmatrix} 22 \\ 276 \\ 0 \end{bmatrix} \rightarrow \begin{matrix} s = 12 \\ p = 4 \\ l = 6 \end{matrix}$$

Algebra 2H  
WS 06.5- Matrix Problems

1.  $\$336 + \$576 + \$972 = \$1884$

2.  $\$385 + \$576 + \$972 = \$1933$

3. 
$$\begin{matrix} & \text{3-Pt} & \text{FG} & \text{Reb} \\ \text{Andi} & \begin{bmatrix} 2 & 10 & 3 \end{bmatrix} \\ \text{Emily} & \begin{bmatrix} 1 & 6 & 3 \end{bmatrix} \\ \text{Sam} & \begin{bmatrix} 3 & 5 & 1 \end{bmatrix} \\ \text{Bob} & \begin{bmatrix} 4 & 0 & 3 \end{bmatrix} \\ \text{Kyle} & \begin{bmatrix} 4 & 0 & 3 \end{bmatrix} \\ \text{Mike} & \begin{bmatrix} 3 & 0 & 3 \end{bmatrix} \end{matrix}$$

4. 
$$\begin{matrix} & \text{3-Pt} & \text{FG} & \text{Reb} \\ \text{Andi} & \begin{bmatrix} 30 & 150 & 45 \end{bmatrix} \\ \text{Emily} & \begin{bmatrix} 15 & 90 & 45 \end{bmatrix} \\ \text{Sam} & \begin{bmatrix} 45 & 75 & 15 \end{bmatrix} \\ \text{Bob} & \begin{bmatrix} 60 & 0 & 45 \end{bmatrix} \\ \text{Kyle} & \begin{bmatrix} 60 & 0 & 45 \end{bmatrix} \\ \text{Mike} & \begin{bmatrix} 45 & 0 & 45 \end{bmatrix} \end{matrix}$$

5. 
$$\begin{matrix} & \text{R} & \text{H} & \text{RBI} \\ \text{San Diego} & \begin{bmatrix} 13 & 32 & 11 \end{bmatrix} \\ \text{New York} & \begin{bmatrix} 26 & 43 & 25 \end{bmatrix} \end{matrix}$$

6. New York had more hits.

7. The triangle is translated down 3 units.

8. The triangle is translated left 1 and up 4 units.

9. The triangle is dilated by a factor of 3 and then translated right 2 and down 5 units.

10. The triangle is rotated  $180^\circ$  about the origin.

11. The triangle is rotated  $90^\circ$  counterclockwise about the origin

12. 
$$\begin{matrix} \text{Opening Night} & \begin{bmatrix} \$2220 \end{bmatrix} \\ \text{Second Night} & \begin{bmatrix} \$2525 \end{bmatrix} \\ \text{Final Night} & \begin{bmatrix} \$2972.50 \end{bmatrix} \end{matrix}$$

13. 
$$\begin{bmatrix} 350 & 400 \end{bmatrix} \begin{bmatrix} 0.80 & 0.20 \\ 0.25 & 0.75 \end{bmatrix}$$
  
 Day 380; Ethan 370